

REMARKS

The Office Action dated December 8, 2003, citing a new reference has been reviewed carefully and the application has been amended in a sincere effort to place the claims in condition for allowance.

Claim Objections

Claim 1 was objected to due to an informality in the formatting, and a correction has been made herein.

Claim Rejections - 35 U.S.C. Section 103(a)

Claims 1, 3, 6, 8-10, 12, 20, 24 and 29 were rejected under 35 U.S.C. Section 103(a) as being unpatentable over United States Patent No. 6,023,620 (Hansson), in view of United States Patent No. 5,414,751 (Yamada).

Briefly, Applicant's invention as claimed in independent claims 1, 20, 24 and 29 describes methods and systems related to programming wireless subscriber terminals (*e.g.*, mobile phones) in a wireless telecommunications system. In each independent claim, there is a recital involving a control program that is divided into a series of messages transmitted from a base station over a broadcast control channel to one or more wireless subscriber terminals, simultaneously. The series (blocks) of messages is broadcast to all recipients and the blocks are interleaved with other control messages. Upon notification that a new program is about to be sent, a pre-programmed message is

transmitted from a wireless subscriber terminal that it is ready to receive the new control program. When a complete control program has been received, control of the wireless subscriber terminal is transferred to the new control program.

However, transmission of the broadcast data over the air interface may be subject to interruption for a variety of reasons, such as that the cell phone being turned off, the terminal moving outside of the range of the base station, other signals or noise interfering or a call being received.

When an individual terminal does not receive the entirety of the program due to one of the aforementioned interruptions, the systems and methods of the present invention provide for messages to be sent to the base station identifying the missing data blocks. The system can also store a partial program, so that an entire program does not need to be received in a single session. Moreover, software patches representing portions of a program can also be transmitted in the case of software upgrades.

More specifically, regarding missing control program control blocks, collective broadcast firmware status messages are received by the base station and provide a complete picture of which blocks are missing from which terminals within the wireless system. In order to fill those gaps, the base station may either rebroadcast a complete set of missing blocks or the base station may individually transmit blocks to each terminal using a forward point-to-point control channel. In some instances, it may even be desirable to transmit a set of missing blocks using a traffic channel or a combination of these strategies can be employed. After a new control program is received in its en-

tirety, a switch over operation is performed to transfer operations to the new control program for each terminal.

In contrast, the newly-cited Hansson reference describes a technique for downloading software to one particular mobile telephone. More specifically, in Hansson when a new version of software is available, an update server processor transmits a message via the cellular telephone network to a single cellular telephone. That phone subscriber is offered the option to download the new version of the software. As stated in column 2, beginning at line 48,

[T]he cellular telephone subscriber can choose to download the new version of the software immediately, or at some time in the future, in which case the cellular telephone subscriber follows the instructions provided in the message offering to download the new software. Typically, the cellular telephone subscriber is instructed to depress a specific key or keys to initiate the downloading process.

Thus, the Hansson system requires end user interaction. In other words, the telephone user has to receive the message indicating that a new version of the software is available and must choose to accept the download by pressing a certain key code. When the download is accepted, a command is then instructed to the cellular telephone to prepare to receive the new software. The processor transmits the new version of the software by either placing a call to the cellular telephone and performing an interim standard-136 data transfer to the cellular telephone on a digital traffic channel, or places

a cellular telephone call and transmits the software via short message service (SMS) messages on the digital traffic channel (Column 4, lines 7-26).

This teaches away from Applicant's invention, which transmits by broadcast to all participating cellular telephone units (WST's) without the need to contact the user and receive an acceptance code keyed in from that user. Furthermore, the initial transmission can be done (simultaneously) by broadcast, in which case individual subscribers do not have to be separately contacted. In the case when there are missing program blocks, individual point-to-point control channel messages can be instituted, however, this is not required, but is rather one feature of the present invention.

Applicant submits that its invention is not obvious in view of a reference that teaches placing a telephone call or sending a text message to a user telling them that a new software program is available, and then requiring that user to interrupt other operations to return the call or send a message to accept the software and then wait until the software is transmitted on a traffic channel. This reference does not teach, suggest or render obvious Applicant's invention of simultaneous transmission of a new control program to all participating units over a control channel (and interleaved with other control messages) without intervention by the user as claimed by Applicant.

As noted, Hansson does not broadcast the control program simultaneously to participating recipient terminals over a control channel. Instead, Hansson sends an individual message to an individual terminal. Hansson does not transmit the new program over a control channel. Hansson says nothing about polling recipient terminals

over control channels, as in step D. Hansson says nothing about a point-to-point control channel transmitting a status message, as stated in step E. Thus, all of these distinctions on which Hansson is silent, could not be obvious in view of Hansson; accordingly, Hansson alone does not render Applicant's invention obvious.

Turning to the language of the claims, the Hansson reference is distinguishable on several grounds, for example, step A of claim 1 includes "transmitting from the base station over a control channel to wireless subscriber terminals information about a new control program". Step C indicates "broadcasting the new control program. . . to the recipient terminals". However, in order to enhance the independent claims and further clarify the distinctions that the present invention has over the cited references, each independent claim has been amended to include a recital that a programmed response message indicating that a terminal will be recipient of the control program is sent over a control channel. This clarifies that end user involvement is not required, and the individual end user can be completely unaware of the process in accordance with Applicant's invention.

The Examiner turns to the Yamada reference to indicate that Yamada in combination with Hansson renders certain aspects of Applicant's invention obvious. The Examiner indicates that Hansson could be modified with the teachings of Yamada because Yamada performs a parity check and retransmits missing blocks of data. However, even combining Hansson with Yamada's parity check still does not give rise to the feature that there is no end user intervention required, as required by Hansson. Hansson

requires that the end user must press a certain key to initiate downloading the program, Applicant's invention does not require the end user to initiate the download. Combining Yamada's parity check and retransmission with Hansson still does not give rise to Applicant's claimed invention.

Claims 3, 6, 8, 9, 10 and 11 depend directly or indirectly upon claim 1. And, for the reasons set forth, claim 1 is distinguishable over both Hansson and Yamada, as well as the combination. Thus, the dependent claims, which include further limitations, are also similarly distinguishable and not rendered obvious by that combination.

Regarding claim 24, Examiner correctly comments that Hansson fails to disclose the program segments are sent without regard to sequence, but Yamada does disclose sending the program segments without regard to sequence. Even applying this concept of Yamada still does not give rise to the fact that Hansson does not broadcast the software over a control channel, but instead places a call to the cellular telephone and performs an interim data transfer on a digital traffic channel or sends it as a short message service on the digital traffic channel, and is not using the separate control channel. Accordingly, claim 24 is not rendered obvious by the combination.

Claims 4, 7, 22, 25-28, 31 and 33 were rejected under 35 U.S.C. 103(a) as being unpatentable over Hansson, Yamada and United States Patent No. 5,887,254 (Hanolon). The distinctions between the Hansson and Yamada references have already been discussed herein and it is noted that the cited claims are dependent, either directly

or indirectly, from the independent claims that have previously been distinguished from those references.

Briefly, the Halonen reference suggests a wireless user terminal that has two memories, the first being an active memory from which a currently used program is being executed and a second memory which is an idle memory that can be used to receive a new program. Halonen, similar to Hansson, receives the program via a short message service, or it can be sent over a data channel, or by system operative code signaling or by a call being placed to the mobile terminal 10. Presumably, once the program begins to download, although it can be interrupted, it does not appear to be taught that any missing blocks of data can be retransmitted, as in Applicant's invention. Thus, Halonen, in addition to a number of other distinctions, does not suggest the retransmission as described in claim 1, upon which claims 4 and 7 depend. Furthermore, claim 22 depends upon claim 20, which is distinguishable from Hansson, Yamada and Halonen for the same reasons as previously stated. Thus, claim 22 is also similarly distinguishable.

Regarding claims 27 and 33, these claims depend upon 24 and 29 respectively, which as hereinbefore described, are distinguishable from the three references alone and in combination.

Claims 13, 14 and 16 were rejected under 35 U.S.C. Section 103(a) as being unpatentable over Hansson, Yamada and United States Patent No.: 5,794,141 to Zicker. Claim 13 is a system claim in means plus function format. The functions are

similar to the steps described with reference to claim 1, and thus are distinguishable for the reasons set forth hereinbefore with respect to Hansson and Yamada. Zicker, on the other hand, fails to disclose that the wireless terminal receives, via control channels, information regarding new control programs from base stations, and that the terminals transmit a programmed response message to the base station, which indicates if the terminal will be a recipient for the new control program. Zicker further does not describe each terminal issuing a status report to determine if specific data blocks are missing, and if so, retransmitting to the terminal's select missing data blocks. Thus, Zicker does not add anything to the combination of references that would render Applicant's invention obvious.

Claim 15 was rejected over Hansson, Yamada, Zicker and Lahdemaki. Regarding claim 15, the claim depends directly upon claim 13, which, for the reasons stated hereinbefore, are not rendered obvious by a modification of the terminals of Hansson, Yamada and Zicker with the terminals of Lahdemaki, because the combination fails to disclose Applicant's system that includes broadcasting from a base station to a wireless subscriber terminal's information about a new control program, fails to disclose means for transmitting a programmed response message from each individual wireless terminal over a control channel indicating whether the terminal will be a recipient (without end-user intervention), and does not disclose polling individual recipient terminals to determine the transfer status of the new control program, nor does it disclose transmitting status messages and retransmitting selected missing data blocks to

each terminal. Thus, the references alone, and in combination, do not render the invention obvious.

Claims 17-19 are dependent upon claim 16, which also includes the limitation that the program information can be sent over broadcast control channels and does not require user interaction. It also does not require that the entire program be retransmitted, as required by Halonen.

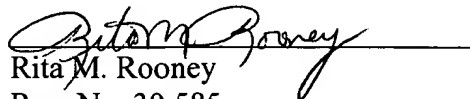
The fact that statements from three references, and in some cases four references are pieced together by the Examiner (with hindsight) to form a combination that still does not result in Applicant's invention, itself shows that the invention is not obvious.

All of the independent claims in the application have been reviewed carefully, and have been amended. Based on these amendments and the arguments presented herein, it is respectfully submitted that the invention is patentable over the cited references, and is now in condition for allowance.

Please do not hesitate to contact the undersigned in order to advance the prosecution of this application in any respect.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,


Rita M. Rooney
Reg. No. 30,585
CESARI AND MCKENNA, LLP
88 Black Falcon Avenue
Boston, MA 02210-2414
(617) 951-2500